

19990117.ba v02_n384.bam.990117 v02_n385.bam.990117

>From ???@??? Sun Jan 17 13:06:18 1999
Message-Id: <199901171226.GAA26137@sco.theporch.com>
Date: Sun, 17 Jan 1999 06:25:51 CST
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 2384

BOATANCHORS Digest 2384

Topics covered in this issue include:

- 1) FS: SP-600 Tapes
by Dick Dillman <ddillman@igc.apc.org>
- 2) FS: OS-8E/U Oscilloscope
by Dick Dillman <ddillman@igc.apc.org>
- 3) FS: RTTY Magazines
by Dick Dillman <ddillman@igc.apc.org>
- 4) FS: Clamp-On Ammeter
by Dick Dillman <ddillman@igc.apc.org>
- 5) Recent Fair R-390
by "A.B. Bonds" <ab@vuse.vanderbilt.edu>
- 6) Re: UTC 30 watt modulation xfmr...
by Bob Roehrig <broehrig@admin.aurora.edu>
- 7) MORE R-390 non A connectors and unisex.
by Dan Arney <kn6di@groupone.net>
- 8) 6C21 Tubes
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 9) Re: Signal Generator, Cheap???
by "Barry L. Ornitz" <ornitz@tricon.net>
- 10) BOATANCHORS digest 2383
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 11) Re: Signal Generator, Cheap???
by lurch <lurch9@worldnet.att.net>
- 12) Getters in Vacuum Tubes, Conditioning Tubes, Etc.
by "Barry L. Ornitz" <ornitz@tricon.net>
- 13) Tube shelf life?
by Jack Antonio <dia@dia.reno.nv.us>
- 14) RE: Getters in Vacuum Tubes, Conditioning Tubes, Etc.
by "David Newkirk" <dpnewkirk@home.com>

Date: Sat, 16 Jan 1999 15:01:38 -0800 (PST)
Message-Id: <2.2.16.19990116150110.45ef40f6@pop.igc.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>

From: Dick Dillman <ddillman@igc.apc.org>
Subject: FS: SP-600 Tapes

SP-600 Tapes - The two-tape set from Hi-Res Communications featuring a guided tour of the SP-600 receiver by Chuck Rippel. Four hours of top notch information on the mechanical and electrical restoration and alignment of this classic receiver. Both tapes in as-new condition. \$89.95 from Hi-Res and ER.

\$50 plus \$6 Priority Mail shipping to US addresses.

Dick Dillman
<ddillman@igc.apc.org>
WPE2VT W6AWO
Collector Of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

Date: Sat, 16 Jan 1999 15:01:36 -0800 (PST)
Message-Id: <2.2.16.19990116150108.45ef050c@pop.igc.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>
From: Dick Dillman <ddillman@igc.apc.org>
Subject: FS: OS-8E/U Oscilloscope

OS-8E/U oscilloscope in case CY-1300A/U - Small, portable, tube-type oscilloscope with 3" CRT on sloping front panel and controls on top. In case consisting of base on which the oscilloscope is mounted and a cover fits into an o-ring sealed groove in the base and is secured with spring loaded fasteners. Includes two out of three original fuses in cover along with original test lead consisting of a BNC connector on one end and alligator clips on the other. The oscilloscope is in excellent, operational condition. I have been using it as a tuning scope for RTTY. The case is in good condition with some paint chips.

\$50 plus UPS VersaPak packing and shipping from San Francisco 94110.

Dick Dillman
<ddillman@igc.apc.org>
WPE2VT W6AWO
Collector Of Heavy Metal:

Harleys, Willys and Radios Over 100lbs.

Date: Sat, 16 Jan 1999 15:01:43 -0800 (PST)
Message-Id: <2.2.16.19990116150115.0edfdf58@pop.igc.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>
From: Dick Dillman <ddillman@igc.apc.org>
Subject: FS: RTTY Magazines

RTTY Magazines - Eleven issues of RTTY magazine from the late 1950s and 1960. This was *the* magazine for the RTTY enthusiast of the time when men were men and the smell of machine oil pervaded the shack. Read about the modification of the KWS-1 for RTTY, marvel at the Teleprinter Corporation MTC-5 monitor console and ogle the pictures showing real radiomen at their operating positions. All in good to very good condition. Consisting of:

Vol. 5, No. 7, July 1957
Vol. 5, No. 10, Oct 1957
Vol. 5, No. 11, Nov 1957
Vol. 6, No. 1, Jan 1958
Vol. 6, No. 2, Feb 1958
Vol. 7, No. 5, May 1959
Vol. 7, No. 7, Aug 1959
Vol. 7, No. 9, Sep 1959
Vol. 7, No. 11, Nov 1959
Vol. 7, No. 12, Dec 1959
Vol 8, No. 1, Jan 1960

Sold as a lot only.

\$55 plus \$3 Priority Mail shipping to US addresses.

Dick Dillman
<ddillman@igc.apc.org>
WPE2VT W6AWO
Collector Of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

Date: Sat, 16 Jan 1999 15:01:45 -0800 (PST)

Message-Id: <2.2.16.19990116150117.0edfe216@pop.igc.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>
From: Dick Dillman <ddillman@igc.apc.org>
Subject: FS: Clamp-On Ammeter

Clamp-on AC Ammeter Set Columbia Electric "Tong-Test" - If you have some serious AC current to measure this is the baby for you. If you don't you can use it to scare the bejeezus out of the kids. The Tong-Test consists of a clamp-on base with handle and trigger that opens the menacing inductive loop and closes it with a clack that says "I mean business". The loop goes around the electrical cable you wish to measure. Into this snap one of four meters with ranges from zero to 400, 500, 800 and 1000 Amps. The set comes in a black leatherette covered case complete with original key. The foam rubber inside the case lid it deteriorated but functional. The foam rubber in the case holding the base and the meters is in good condition as is the outside of the case. The base and meters are in excellent condition.

\$35 plus UPS VersaPak packing and shipping from San Francisco 94110.

Dick Dillman
<ddillman@igc.apc.org>
WPE2VT W6AWO
Collector Of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

Message-Id: <1.5.4.32.19990117003850.00a7e408@mailhost.vuse.vanderbilt.edu>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sat, 16 Jan 1999 18:38:50 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: "A.B. Bonds" <ab@vuse.vanderbilt.edu>
Subject: Recent Fair R-390

I picked up an R-390 (non-A) from Fair just after Christmas and have been cleaning out the batwings and mouse droppings (so to speak). It looked pretty ratty when I picked it up, but it's been coming together nicely in a first-cut attempt to get it going. So far I have removed all the modules, disassembled and cleaned the geartrain, re-synchronized, checked the tubes, inspected the wiring, and generally cleaned stuff up. I also checked the resistors in the power regulator section, which were dead-bang on spec. There were five tubes in various states of decay (all small), easily replaced. I bead-blasted and painted the knobs and polished up the front

panel. Yes, it has some scratches on it, and those swirls around the tuning knobs, but it seemed just too good to repaint. Hate to lose the badge of all that service.

What I didn't get: Covers, meters (which I got from Rick Mish) and the green gear, about which I recently discoursed.

Well, today it went together. Aside from a couple of small glitches, it came right up, and I am astounded by the "as is" performance. The carrier level meter was pinned. This arose from a broken wiper on the meter adjust pot, which I mended with solder. The line meter didn't work. This came from a broken resistor on the meter switch. The crystal oscillator switch needed De-Oxit pretty badly, which I delivered. Bang, zoom, it works pretty good (listening to Radio Turkey 9445 right now....). It has been zero-beated on that carrier for about three hours without adjustment.

The HV is running about 188 v, but I think one of my 5651's is flaky. I have some coming from Fair. The PTO needs adjustment--over ten turns it comes up about 10 kHz short, so I gotta deal with that. I replaced the audio coupling cap (0.01) with a 0.047 to mellow out the sound, which had noticeable results. For fun I put the original Vitamin Q cap on my VERY critical Heath cap checker--value is bang on, and not a hint of leakage.

I don't believe for a minute that I am done with this project (I hope not, I deserve more entertainment than this), but as it stands I am pretty satisfied.

Folks, Fair had what looked like a dozen or so of these left. At \$250 (plus meters) it's a pretty good deal if you crave a really heavy radio...

73

A. B. Bonds

Date: Sat, 16 Jan 1999 19:30:48 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: UTC 30 watt modulation xfmr...
Message-ID: <Pine.ULT.3.96.990116192901.2943A-1000000@admin.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sat, 16 Jan 1999, Sandy W5TVW wrote:

> Anybody got the connections/pinout for the UTC S-19 Universal 30 watt
> modulation transformer?

The S-19 thru S-22 can match umpteen impedances. I have a big chart showing what taps are what - too much to detail here. Be glad to

send the sheet to anyone that wants one. If you know what Z's you want to match, I can give you the specific pri/sec taps.

"Nostalgia is a thing of the past"
E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

Message-ID: <36A164AB.62B32DD0@groupone.net>
Date: Sat, 16 Jan 1999 20:18:51 -0800
From: Dan Arney <kn6di@groupone.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: MORE R-390 non A connectors and unisex.
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Well gang we dug through the bottom of the boxes and I came up with 11 connectors for the R-390. These have a female screw in the center instead of male screw. The pins and indexing are the same. What I am doing is cutting the screw off about 3 /16 of an inch and reaming out the center hole to .350" plus I am taking the Dremel tool and routing out the index a small amount so the plug will fit in place. It is a snug fit and the plug in normal wear and usage will stay put. Price \$17.50 postpaid in US Postal service for Conus. \$2.50 for 3 wire power cord with molded plug if ordered with the plug. NOT CONNECTED.

Also got some Unisex speaker plugs that fit R-392 and other Mil. radios. \$12.50 postpaid
When ordering please do not send money with out a confirmation number. That way I know who gets what and I don't have to mail back a bunch of checks.
My address is
Dan Arney
18401 Chase St.
Northridge, CA. 91325-3610

I will hold plugs for 1 week waiting for check. Good personal checks are fine.

Please 1 power plug per person as a lot of guys want them.
Thanks,
Hank
73

Date: Sat, 16 Jan 1999 23:31:56 -0500

From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: 6C21 Tubes
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199901162332_MC2-66F0-14DB@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Group,

What's a 6C21? While clearing space under the shed behind my garage to get my generator out of the weather, I found two in a box of tubes that I had=

forgotten was back there. One is Eimac. The shape is identical to the 450TH except that the grid lead exits at a downward angle instead of horizontal when the tube is standing base down. The other is Machlett, and is similar. I ran the heaters in both but that's as far as my testing went. Anyone have any use for them before I call AES? Offers? =

Also found four 813's. Heaters are good (30 minutes each) but one has a piece of ceramic floating around. Don't really think that will bother it=

unless your airplane is dodging Zeroes or chasing Bettys. I don't own anything that uses 813's. Anyone need them? \$12.50 each OBO. Plus shipping. Subject to testing at your end, of course. AES catalog doesn't currently list them for some reason, although they are on their most recent bid list @ \$17.00. 'Course that's for unused ones.

73,
Robert Downs
WA5CAB
Houston, TX

From: "Barry L. Ornitz" <ornitz@tricon.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Signal Generator, Cheap???
Date: Sat, 16 Jan 1999 23:38:56 -0500
Message-ID: <01be41d3\$4ae24400\$9f4562d8@ornitz.dpnnet.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

I am surprised that no one is interested in the signal generator I wrote about yesterday. I only got one message from John Brewer telling me what a good generator it is. He noted it had calibrated output from 0.1 uV to 0.1 V, internal modulation at 400 and 1000 Hz, stable, metered, etc. Its manufacturer, Measurements Corporation is, I think, related to Boonton. The company reputation is similar to General Radio and Hewlett-Packard. My guess is that this generator is far superior to a surplus URM-25. I did not state the price (deliberately), but it is a small fraction of the \$100 the seller wanted just for shipping. If you are interested, send me email and I'll give you the details. Remember, if you can pick this unit up in Northern New Jersey, you only have to pay that fraction, and nothing for the shipping. I just wanted someone on Boatanchors to have it rather than have the seller place it on EBAY for four or five times as much (which it is probably worth - but then I have not seen it).

73, Barry WA4VZQ ornitz@tricon.net

Date: Sun, 17 Jan 1999 00:19:19 -0500
From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: BOATANCHORS digest 2383
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199901170019_MC2-66F4-92EB@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Message text written by Clarence Owens
>box of them for sale as NOS with widely varying amounts of silver vs.
milky
getter. Seems like the sealing technology in use at GE for those tubes w=
as
pretty poor. But I suppose the life expectancy for tubes and operators i=
n
actual use was so short that nobody ever noticed any problems.
<

Clare & Group,

That pretty much agrees with my experience. The box from behind the gara=
ge
that I mentioned earlier also contained about a dozen VT-4C's. Seven had=
metal floaters, and went into a box to go to a local artist type (hopeful=
ly

in return for a couple of good tubes from one of her displays). Three are
good so far as I know at the moment, and two had a milky coating on the
inside of the envelope in the vicinity of the getter. Both of the latter
had good heaters, but one failed shortly after warming up. Am I correct =
in
assuming that they are/were leakers? Incidentally, at rated voltage and
current, the heaters in the latter two were dull red, whereas good tubes=
go into the far yellow to white. Disgusting thing is that all those with=
floaters had good getter marks.

73,
Robert Downs
WA5CAB
Houston, TX

Message-Id: <3.0.3.32.19990116233248.00694008@postoffice.worldnet.att.net>
Date: Sat, 16 Jan 1999 23:32:48 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: lurch <lurch9@worldnet.att.net>
Subject: Re: Signal Generator, Cheap???
Cc: boatanchors@theporch.com
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

if it's a model 65B, i've got two of 'em i bought for \$25 apiece at
hamfests, i also have a \$30 model 80 and all 3 of 'em work well. shame to
see it go to ebay...At 11:38 PM 1/16/99 -0500, you wrote:
>I am surprised that no one is interested in the signal generator I wrote
>about yesterday. I only got one message from John Brewer telling me what a
>good generator it is. He noted it had calibrated output from 0.1 uV to 0.1
>V, internal modulation at 400 and 1000 Hz, stable, metered, etc. Its
>manufacturer, Measurements Corporation is, I think, related to Boonton.
>The company reputation is similar to General Radio and Hewlett-Packard. My
>guess is that this generator is _far_ superior to a surplus URM-25. I did
>not state the price (deliberately), but it is a small fraction of the \$100
>the seller wanted just for shipping. If you are interested, send me email
>and I'll give you the details. Remember, if you can pick this unit up in
>Northern New Jersey, you only have to pay that fraction, and nothing for
>the shipping. I just wanted someone on Boatanchors to have it rather than
>have the seller place it on EBAY for four or five times as much (which it
>is probably worth - but then I have not seen it).

>

> 73, Barry WA4VZQ ornitz@tricon.net

>
>

From: "Barry L. Ornitz" <ornitz@tricon.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Getters in Vacuum Tubes, Conditioning Tubes, Etc.
Date: Sun, 17 Jan 1999 02:52:35 -0500
Message-ID: <01be41ee\$589c1b00\$9f4562d8@ornitz.dpnnet.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

After reading some of the posts on conditioning tubes and such, I believe most of our readers do not understand how getters really work. If you are willing to wade through another boring lecture, maybe I can explain things a little better, and you can judge for yourself what techniques might and might not work to restore a vacuum in a tube. For those that have met me at Shelby and Dayton, you know how difficult this is for me to "lecture" without a blackboard and lots of hand waving! :-)

To begin, getters work by two entirely different methods: chemical and physical. Most people are familiar with the idea that a getter can chemically react with residual gas in a tube to bind it and maintain the tube's vacuum. But there is much more to it than just this.

Getters are made from very reactive metals. Early tubes used calcium, which had a high enough vapor pressure of its own that it limited the amount of vacuum that could be obtained. Later tubes used such materials as aluminum, magnesium, and finally barium. All of these materials are highly reactive of course. But what do they react with, and what gases are found in a tube?

The gases left in a tube during manufacturing are those found in normal air and often those released from the alloys that the tube elements are made from. The major ones are oxygen, nitrogen, and argon from air, and occasionally carbon dioxide and carbon monoxide from binders in the oxide paste used to make the indirectly heated cathodes, and sometimes some water vapor. The next question is how do these gases react with the getter material.

Since the getters are quite reactive, they LOVE oxygen and oxygen containing compounds. Assuming the getter reacts with these gases, the nitrogen and argon (and very low amounts of other noble gases like neon, helium, and krypton) are still left. Nitrogen will sometimes react with the getter materials at high temperatures, but basically nitrogen is just not very reactive. The argon and other noble gases (so named because they

react with nothing) just do NOT react with the getter at all. Argon is the most plentiful of these, and when it ionizes it glows blue. There needs to be some way to get these gases out too.

This is where the physical entrapment of the getter comes in. The getter surface, while looking rather mirror-like on the side next to the glass, is actually fairly porous. Its surface is excellent for adsorption to occur. [Note that is spelled with a "D", not a "B".] Adsorption is where a gas is attracted to a surface and is held there by thermodynamic forces. Langmuir, who was a contemporary of Fleming, is best known for his work on adsorption and thermodynamicists refer to Langmuir isotherms when talking about the subject. [Absorption, with a "B", is a bulk effect. Think of absorption as dissolving into a material, while adsorption is clinging to the material's surface.]

The getter material with its porous surface is just great for all the floating nitrogen molecules and argon atoms to cling to. But adsorption is temperature sensitive. It works better at low temperatures. At high temperatures, the adsorbed gases act like someone with bare feet on hot summer asphalt. They soon jump around and are back into the tube again.

Now compare this to the reactive properties of the getter. Here higher temperatures make the getter even more reactive up until the point where reacted gases can dissociate from the getter material (which, fortunately, is much higher than we ever normally see).

At this point, everyone (including me) should be quite confused about how to "restore" a getter. But before I wave my hands some more, allow me to discuss how the getter is placed in the tube.

Very early tubes had almost their entire glass surface coated with getter material. This was because the vacuum obtained in those days was not very good and a large getter area was needed. As the vacuum systems improved, it was found that the shiny getter reflected heat back to the tube plates and hurt the radiant heat transfer. Thus more modern tubes need less getter material (by starting with a better vacuum), and it tends to be located in areas where it does not interfere too much with the heat transfer (near the top or base).

The getter is normally placed in a little cup, or hollow trough-like tube, which is attached to the tube elements. Placement is critical to control where the getter goes. In some tubes, the getter was "fired" by passing an electrical current through its holder (this was usually done in metal tubes). But in most, the getter was "fired" or "flashed" by induction heating. The getter is not fired until the vacuum in the tube is sufficient that enough gas atoms have been removed from the tube that the getter only hits a few in its path on its way to the envelope. Physicists call this the mean free path. The getter atoms travel in a straight line

from the cup or trough which is carefully aligned to keep any of the getter material from depositing on the tube elements - and especially the internal spacers and insulators. The tube wall is usually cool (at least with respect to the getter atoms) to allow them to coat out properly on the glass.

Now, getting even more off the topic, we come to the tube glass. In large transmitting tubes, the "glass" is generally quartz or high temperature borosilicate glass (similar to Pyrex in cooking ware). This glass is rated for very high temperatures and is an excellent barrier to diffusion of gases through it. This is good since transmitting tubes generally have an order or two better vacuum than do receiving tubes. Transmitting tubes also can have tantalum and other high temperature plate materials. Tantalum itself is a fairly good scavenger for oxygen at high temperatures as others have noted. Tungsten behaves differently; its oxide is more volatile than the metal itself so any oxides formed on a tungsten filament are quickly boiled off where they can coat the grid and plate and cause all sorts of damage.

The glass to metal seals in transmitting tubes are a major source for leaks. This is why they should be treated with care, i.e. not subjected to side strains, rapid temperature changes, excessive temperature, etc. In VHF and UHF tubes, seal heating by the dielectric losses in the glass can be a problem too.

In small receiving tubes, the glass is a softer, lower temperature one. The base pins of miniature tubes are generally sealed into a complete assembly before the tube elements and the top glass is attached. Seal failures here are less likely but they can still happen. The soft glass of small receiving tubes is slightly more porous than the hard glass of transmitting tubes. But since the vacuum of a receiving tube is not as critical, this is seldom a problem.

Now to go back to getters...

Over a period of time, material adsorbed on the getters can be dislodged and enter the vacuum space again. If the tube is not operating, some of this material will adsorb on the plate, grids, and cathode structure of the tube. When the tube is powered up again, this material will desorb from the heated parts and go back into the vacuum space. Eventually, much of this will wind up on the getter surface again. I think this explains the "cooking off" of old tubes making them usable again. I seriously doubt if any additional getter material is vaporized from its original source in the tube. The getter material is designed to be fully vaporized and deposited at the original firing. [I have heard, however, that there are some foreign tubes made with getters attached to the plates designed to operate over the life of the tube. These are likely not conventional getters but more like the tantalum plates themselves.] Additionally, I doubt if many

tubes have enough emission to generate the temperatures achieved with the induction heaters. Trying to do this will likely damage the cathodes.

If you heat the tube envelope, you will certainly drive off the adsorbed gases on the getter. Again, over a period of time, most of these gases will return to the getter (if the other tube elements are hot enough and the wall again cools off). Heating the getter too much is a distinct possibility, however. If you vaporize any of the getter material, and it coats out on the tube structure, you have just ruined the tube. How high you can heat depends on the getter material itself. Barium has a fairly low melting temperature. Calcium, aluminum and magnesium can take higher temperatures. But remember you can sublime some of these materials well below their melting points. [To give you a feel for what kind of temperatures the metals used in tubes can take, I'll list a few melting points at the end including these getter materials.]

I could possibly believe that heating the getter material in an old tube might cause some of the adsorbed gases to react with the getter entrapping them, but I suspect this effect would be quite small. The desorption of adsorbed gases would greatly mask any effect seen. Any you would run the risk of vaporizing some of the getter. If anyone tries this as an experiment, be extremely careful to let the tubes cool slowly to avoid thermal stress. In soft glass tubes, heating the glass too much can increase the diffusion of gases through the glass.

So to conclude this lecture (remember there will be a quiz tomorrow!), I think it is worth running old tubes with operating voltages to get the plates hot for several hours is always worthwhile. This should desorb gases currently clinging to the plate structure and possibly the grids and cathode too. If this does not work, I can see no harm in trying to heat the getter some followed by conditioning again. The tube is already bad at this point, so anything that helps is an improvement. In a very gassy tube, I doubt if anything will help.

For those interested, further reading can be done in the books by Spangenburg, Eastman, and Rosebury.

The table I mentioned above is listed below:

73, Barry L. Ornitz WA4VZQ ornitz@tricon.net

Metal	Melting Point C	Melting Point F	Boiling Point C	Boiling Point F
aluminum	660	1220	2467	4473
barium	452	846	867	1593
calcium	839	1542	1484	2703

chromium	1584	2883	2672	4842
copper	810	1490	2567	4653
gold	791	1456	2807	5085
iron	1262	2304	2750	4982
magnesium	649	1200	1090	1994
nickel	1453	2647	2732	4950
platinum	1772	3222	3827	6921
silver	962	1764	2212	4014
tantalum	2996	5425	5534	9993
titanium	1660	3020	3287	5949
tungsten	3410	6170	5773	10423
zirconium	1852	3366	4377	7911

 Message-ID: <36A19DDA.40F6@dia.reno.nv.us>
 Date: Sun, 17 Jan 1999 00:22:50 -0800
 From: Jack Antonio <dia@dia.reno.nv.us>
 MIME-Version: 1.0
 To: Old Tube Radios <boatanchors@theporch.com>
 Subject: Tube shelf life?
 Content-Type: text/plain; charset=us-ascii
 Content-Transfer-Encoding: 7bit

Good evening all,

All this talk about tube chemistry and structures leads me to ask a question, mainly, how long of a shelf life do tubes have? Mainly, the question has to do with tubes like a well made 6BA6 and the like, just typical receiving tubes. We certainly think nothing of putting 40 or 50 year old new tubes in our radios, but will there come a time that these tubes just won't wake up? Will it be in our lifetimes, or 100 years from now, or a 1000?

Just wondering

73

Jack Antonio WA7DIA
 dia@dia.reno.nv.us

 From: "David Newkirk" <dpnewkirk@home.com>

To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Getters in Vacuum Tubes, Conditioning Tubes, Etc.
Date: Sun, 17 Jan 1999 07:25:26 -0500
Message-ID: <000001be4214\$76c42de0\$11670518@cc328679-a.vron1.nj.home.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Barry Ornitz wrote:

[deletions]

> If you heat the tube envelope, you will certainly drive off the adsorbed
> gases on the getter. Again, over a period of time, most of these gases
> will return to the getter (if the other tube elements are hot enough and
> the wall again cools off). Heating the getter too much is a distinct
> possibility, however.

and

> I could possibly believe that heating the getter material in an old tube
> might cause some of the adsorbed gases to react with the getter entrapping
> them, but I suspect this effect would be quite small. The desorption of
> adsorbed gases would greatly mask any effect seen. Any you would run the
> risk of vaporizing some of the getter. If anyone tries this as an
> experiment, be extremely careful to let the tubes cool slowly to avoid
> thermal stress. In soft glass tubes, heating the glass too much can
> increase the diffusion of gases through the glass.

[more deleted]

In discussing receiving techniques of 1915, K. B. Warner's "Silver Anniversary," December 1940 *QST* -- a just plain wonderful reminiscence on 25 years of *QST* and ham radio doings that I recommend to every participant in this group -- mentions early amateur use of this technique:

"The audio was a 'soft' tube; it worked on a kink in its characteristic curve which you found by careful fiddling with A and B voltages, so you had a potentiometer across your B battery and some fool-proof system of disconnecting it when you closed down the station, else you'd need a net set of cells to-morrow. And because the tube was soft, it would do wonders in a magnetic field, so most stations possessed a strong bar magnet that could be adjusted to a critical position near the tube. Sometimes the tubes got too hard with the passage of time, got too good a vacuum in them, lost their sensitivity--because the gas occluded to the walls of the glass bulb. So an important instrument in most shacks was an alcohol lamp over which the audion could be cooked to drive the gas off the walls and make it 'ionic'

again. (But shucks! Any of us old-timers could do the job with a match and think nothing of it!) A very rare station sometimes possessed a stage of audio amplification but it was practically unheard of. Moreover, it wasn't needed. Don't feel too sorry for the sensitivity of these detectors. The tuning apparatus was crude and the spark method highly inefficient but actually the sensitivity of a good soft audion, operating at the right blue-glow point and under the stimulus of the left pole of a magnet taken from a telephone ringer, was simply enormous. We've often thought that many multi-tube rigs of to-day don't touch it in sheer sensitivity to modulated signals. Trouble was you couldn't hold it in adjustment for long."

73,

Dave Newkirk, W9VES
dpnewkirk@home.com

End of BOATANCHORS Digest 2384

>From ???@??? Mon Jan 18 06:22:49 1999
Message-Id: <199901172356.RAA03322@sco.theporch.com>
Date: Sun, 17 Jan 1999 17:55:17 CST
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 2385

BOATANCHORS Digest 2385

Topics covered in this issue include:

- 1) Re: Signal Generator, Cheap???
by john <johnmb@mindspring.com>
- 2) CLEANING OF BASEMENT
by "anthony w. deprato" <tdeprato@som-uky.campuscw.net>
- 3) NEW WEB pages: HRO-500, AR-88
by "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
- 4) Re: Getters, TUBES (not pigs) IN SPACE
by polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
- 5) Re: 6C21 Tubes - radar beauties?
by polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
- 6) My AM Favorite RX
by polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
- 7) Re: Signal Generator, Cheap???
by "The Harrahs" <harrah@ia.net>
- 8) B&W5100 vfo mod

- by cswiger <cswiger@wilma.widomaker.com>
- 9) Re: Getters in Vacuum Tubes, Conditioning Tubes, Etc.
by Scott Robinson <spr@earthlink.net>
- 10) Re: 6C21 Tubes - radar beauties?
by jackiv@juno.com (John M Iverson)
- 11) Need Info
by Gerald Morris <k6qy@mindspring.com>
- 12) Hewlett Packard 214A Pulse Generator
by Jim Roik <jnroik@escape.ca>
- 13) On line Mil Dyno and Battery info
by "Deane D McIntyre" <dmcintyr@ucalgary.ca>
- 14) WTB BC 729 Ant. Tuner
by Paul Thekan <Paul.Thekan@eimac.cpii.com>
- 15) RE. SHIPS 275
by Jacques Ransac <ransac@club-internet.fr>
- 16) SHACK DRIPPINGS #2
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 17) WANTED: Power supply and Manual CAI C26A
by Dan Arney <kn6di@groupone.net>
- 18) BATTERY CHARGER SOCKET
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 19) Re: 6C21 Tubes
by Larry Kayser <kayser@rideau.net>
- 20) Re: My AM Favorite RX
by Bob Roehrig <broehrig@admin.aurora.edu>
- 21) Re: WANTED: Power supply and Manual CAI C26A
by WF2U <mbendror@villagenet.com>
- 22) Info Needed: SB-34 mechanical filter
by Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
- 23) A.C. RADIO BATTERY ELIMINATOR, TRULY ANTIQUE!
by JOHN_SEHRING.parti@ecunet.org (JOHN SEHRING)

Message-Id: <3.0.3.32.19990117074955.00cc1aa0@mindspring.com>

Date: Sun, 17 Jan 1999 07:49:55 -0500

To: Old Tube Radios <boatanchors@theporch.com>

From: john <johnmb@mindspring.com>

Subject: Re: Signal Generator, Cheap???

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

At 11:38 PM 1/16/99 -0500, Barry L. Ornitz wrote:

>I am surprised that no one is interested in the signal generator I wrote
>about yesterday.

If you're looking for a professional quality instrument, I'd highly recommend this unit... if you're used to using a Heath, or Eico quality unit, you'll really appreciate a lab quality generator such

as this.

The unit I have came from Dee in VA, dragged home from the Richmond Frostfest (three years ago TODAY, coincidentally... anyone care to give us a fest report on todays event?) and it's not going to leave my bench any time soon.

If anyone has any question, please drop a line
/John

+-----
| John Brewer- WB50AU/4
| AMI #24 Vintage Radio Website
| <http://www.mindspring.com/~johnmb/>
+-----

Message-Id: <3.0.5.32.19990117085103.008665e0@mail.som-uky.campuscw.net>
Date: Sun, 17 Jan 1999 08:51:03 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: "anthony w. deprato" <tdeprato@som-uky.campuscw.net>
Subject: CLEANING OF BASEMENT
Cc: Old Tube Radios <boatanchors@theporch.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I have been informed that i will have to clean the basement out by the xyl..hi hi...
if anyone is interested any what i know off hand is there before i get a list let me know.
u.s. navy ura8a rtty unit this is the whole nine yards. the heavy rack case with blower assy. demod unit with scope. and tone unit. weights in at about 125 lbs..has set for 25 years so i have not ideal on working condition. I brought it back from norfolk when the navy decomm'ed 30 shippes in the early 70's it was in the warehouse. there is a G.E. new in box Plumcon imaging tube will have to get the number. also a complete mostly never used bessler color darkroom setup.. \$2000 worth.. and a 70's ROCK-O-LA juke box. I will make a list of the other items just too many to remember.but these i fall over when i go down there.
73 tony wa4jqs

Message-Id: <3.0.1.32.19990117152947.006dc6b0@pop.ctv.es>
Date: Sun, 17 Jan 1999 15:29:47 +0100
To: Old Tube Radios <boatanchors@theporch.com>
From: "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
Subject: NEW WEB pages: HRO-500, AR-88

Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Hi gang,

I have just updated my WEB pages to include the National HRO-500 I am working on (with pictures before and after working on it) and also have updated the information about the RCA AR-88 receiver. If you want to take a look, go to my WEB page (address in my signature) and then look in the main index.

Best regards.

JOSE

73 EB5AGV / EC5AAU
JOSE V. GAVILA
Ausias March 46, 15
46910 Benetusser - VALENCIA
SPAIN

** VISIT MY VINTAGE RADIO SITE - updated 17-January-1999 ***
<http://www.geocities.com/SiliconValley/6992/>
e-mail: eb5agv@ctv.es & eb5agv@amsat.org

Date: Sun, 17 Jan 1999 09:50:04 -0500
From: polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
Message-Id: <199901171450.JAA05212@aa4rm.ba-watch.org>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Subject: Re: Getters, TUBES (not pigs) IN SPACE

First, I'm cutting class tomorrow.

Next... clap, clap, clap from martin in fortran-land (help, I'm a prisoner in a never-terminating do-loop)

```
do 69 i=1,10
  print,"barium getter"
69 i=1
```

and, how did all the nattering ba community tube dialog ever miss glass-to-metal seal defects 'til I awoke the sleeping ornitz publically with yesterday's post?

Finally, why does tantalum aDorption get good ~800C? That's dull red &

maybe as p/o the heat-up, the surface roughens to improve the mechanism
--More--

Go ahead, humiliate me!

M

note I was gazing into @ a 4-400 now for muse-inspiration. a sorta ba
new-age crystal (nonex) ball.

and... another listmember & I are discussing putting tube payloads
into orbit to preserve rare items for posterity. I'm submitting 126
JAN 6AG5s to show my heart's in the right place.

I think other listmember has already contacted Anderson & is copywriting
the idea so keep y'all's biz-op pants on.

Date: Sun, 17 Jan 1999 10:02:47 -0500
From: polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
Message-Id: <199901171502.KAA05230@aa4rm.ba-watch.org>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Subject: Re: 6C21 Tubes - radar beauties?

Say my understanding is they were pulse modulators used in some huge
1st-generation VHF radar. Tube switches/pulse modulators went out w.
hydrogen thyratrons ~1944. Wm. Donzelli'd know more.

Memory rings they were 450th-ish in the anode dept. & 750th-ish
in the fil. div'n.

Kinda like the VT127 being a repackaged 250th with a 100th plate -
but the VT127 was p/o a ring oscillator, not a pulse modulator.

Not in 1960 ARRL hbk, but neither was 450th or 750th - guess Newington
considered 'em too big to be 'hammish.'

Uh oh, starting to rave on (it's a crazy feelin').

M

...anythin familiar in ur mailbox?

Date: Sun, 17 Jan 1999 11:48:22 -0500
From: polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop)
Message-Id: <199901171648.LAA05385@aa4rm.ba-watch.org>

To: Old Tube Radios <boatanchors@theporch.com>
Subject: My AM Favorite RX

Here it is, a American Bosch 5A TRF. 3ea. 24As & a 47 in a hot little beautifully-crafted gold-pinstriped mahog table-top cum shoehorned-in 8" dynamic. Gess 1930/31.

It was given to me 2 yr.s ago since it was missing pwr xfrmr. SO...

took 600vct, 6.3vct, 5v medium rx xfrmr - then ran 1st 2 24As in series w. 5Vac. Took computer schottky-barrier low-v-drop diode-pr & made full-wave rect outa 6.3Vac. Resulting 2.7Vdc across 47 output, pilot, & 24A det.

Gymcrack works like ring in a bell & played Carl Perkins' Blue Suede Shoes (b4 the king) version on 1190 a bit ago.

Love the thing & have thota cabling it to the Mac stereo as an alternate to the Miller tuner. But never did.

Now the set was outa service & the thread got me lookin' @ it. Open rfc to 2nd rf plate... fixed by peeling couple 'o turns off pi-wdg, tagging in piece 'o #40, & voila Beethoven, Everly Bros., et. al

Like it so well just restored cabinet by q-tipping "scuffy brown" into scratch scars. What craftsmanship.

So the American Bosch* 5A TRF is my pick.

M

*I always wondered if their sales part paid back WW1 war reparations????

Message-ID: <015b01be423a\$7a4aa040\$05eee6ce@harrah-zeus.inav.net>
From: "The Harrahs" <harrah@ia.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Signal Generator, Cheap???
Date: Sun, 17 Jan 1999 10:46:20 -0600
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Barry,

I'm sure a lot of us feel your pain, but, you gotta admit, there likely aren't a LOT of us within driving distance of --- where did you say?--- Northern New Jersey. Your 'target audience' is pretty limited.

Those kinda deals break my heart, actually.

"Is this heaven?"

"No, it's IOWA."

Good luck,

Buzz

Wayne "Buzz" Harrah, ke0ms
harrah@ia.net (home email)
<http://www.ia.net/~harrah>

Final note: don't forget to..... to..... -- never mind.

-----Original Message-----

From: Barry L. Ornitz <ornitz@tricon.net>
To: Old Tube Radios <boatanchors@theporch.com>
Date: Saturday, January 16, 1999 10:43 PM
Subject: Re: Signal Generator, Cheap???

>I am surprised that no one is interested in the signal generator I wrote
>about yesterday. I only got one message from John Brewer telling me what a
>good generator it is. He noted it had calibrated output from 0.1 uV to 0.1
>V, internal modulation at 400 and 1000 Hz, stable, metered, etc. Its
>manufacturer, Measurements Corporation is, I think, related to Boonton.
>The company reputation is similar to General Radio and Hewlett-Packard. My
>guess is that this generator is far superior to a surplus URM-25. I did
>not state the price (deliberately), but it is a small fraction of the \$100
>the seller wanted just for shipping. If you are interested, send me email
>and I'll give you the details. Remember, if you can pick this unit up in
>Northern New Jersey, you only have to pay that fraction, and nothing for
>the shipping. I just wanted someone on Boatanchors to have it rather than
>have the seller place it on EBAY for four or five times as much (which it
>is probably worth - but then I have not seen it).

>

> 73, Barry WA4VZQ ornitz@tricon.net

>

Date: Sun, 17 Jan 1999 12:52:49 -0500 (EST)
From: cswiger <cswiger@wilma.widomaker.com>
To: Old Tube Radios <boatanchors@theporch.com>

Subject: B&W5100 vfo mod
Message-ID: <Pine.BSF.3.96.990117124651.28128A-1000000@wilma.widomaker.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Ba'ers:

During a 5100 party this afternoon, a gentleman in Chevy Chase expressed interest in the Electric Radio article on stabilizing the VFO - as fate would have it I had JUST loaned out my collection of ER to a local yocal - can anyone email either me or him directly at mccrk@aol.com with the Issue data that appeared in and/or summary details of the article itself.

Thanks

Chuck
kb4new
cswiger@widomaker.com

Message-Id: <v03007800b2c7cc6dd13f@[153.34.29.234]>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sun, 17 Jan 1999 09:39:12 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: Scott Robinson <spr@earthlink.net>
Subject: Re: Getters in Vacuum Tubes, Conditioning Tubes, Etc.
Cc: boatanchors@theporch.com

Barry and the list,

Barry, many thanks for your very ionformative (now there's a nerd's Freudian slip, how about informative) post on getters and vacuum retention.

When I got active in firebottles about 12 years ago after 20 years of playing with other toys (mostly single cylinder motorcycles) I scrounged a tube tester and went through my box (yes, only one...then) of tubes, expecting to toss most out as worthless. Bet most of them were good. Now the tester I started with, and Eico 666, does not have a gas test. The Hickoks I've subsequently added do have such a test, measuring grid current if I'm not mistaken. What impressed me is that almost none of the tubes were gassy, and some of the large pin types date from the '20s. I'd guess the time constant for glass porosity must be pretty long. Of course the older types have a much larger volume to surface ratio and so would naturally take longer.

Exception: every EL84/6BQ5 I test reads gassy. They work fine in sservice,

despite the rather high (over 500K) grid resistors that most German radios use with them, so I ignore this result. I presume I'm measuring space charge current due to the grid being very close to the cathode to get a high Gm.

The miniatures are also nearly all good. They are helped by being half as old and perhaps by better sealing technologies. I presume that the tube factories were pretty good at it by 1950 or thereabouts.

Interesting sidelight: in 1965, I worked in the engineering lab at college for a summer. I was implementing a circuit my advisor had suggested for a very high input impedance probe for use with micropipette nerve cell probes. I needed as close to zero DC input current as I could get, and I noticed that the measured grid current went from negative for 12AX7s through quite small for 12AT7 to positive for 12AU7. I then picked a 6X4 with a μ of about 40, like the 12AT7, and found that you could adjust the heater current for zero grid current as measured with a Keithley electrometer whose most sensitive scale was, as I recall, 10^{-15} A. My advisor took the box and used it, so I must have done something right.

This circuit also had active cancellation of the input capacitance. I think we got down to just a couple of pF.

That's my story and I'm sticking to it.

Regards,

Scott Robinson
spr@earthlink.net

Junque is GOOD for you!

To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Date: Sun, 17 Jan 1999 12:56:41 CST
Subject: Re: 6C21 Tubes - radar beauties?
Message-ID: <19990117.131053.10374.2.jackiv@juno.com>
From: jackiv@juno.com (John M Iverson)

To quote Tube Lore, 6C21, roughly similar to the 1000T, fil.8.2v@ 16.8
a, u30, 30kv, 15a 300w (pulse duty) suited for long pulse. Pulser in
AN/MPS-9, AN/MPQ-18, and SCR-584. BIG TUBE! 73 jack
Jack Iverson K0EWU jackiv@juno.com

ARRL, IEEE LM, RCA, AMI, ARCI, QCWA

On Sun, 17 Jan 1999 10:02:47 -0500 polepeeg@aa4rm.ba-watch.org (Marty's Refl. Drop) writes:

> Say my understanding is they were pulse modulators used in some huge
> 1st-generation VHF radar. Tube switches/pulse modulators went out w.
> hydrogen thyratrons ~1944. Wm. Donzelli'd know more.
>
> Memory rings they were 450th-ish in the anode dept. & 750th-ish
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>
> Kinda like the VT127 being a repackaged 250th with a 100th plate -
> but the VT127 was p/o a ring oscillator, not a pulse modulator.
>
> Not in 1960 ARRL hbk, but neither was 450th or 750th - guess Newington
> considered 'em too big to be 'hammish.'
>
> Uh oh, starting to rave on (it's a crazy feelin').
>
> M
>
> ...anythin familiar in ur mailbox?
>
>

You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at <http://www.juno.com/getjuno.html>
or call Juno at (800) 654-JUNO [654-5866]

Message-Id: <3.0.1.32.19990117114903.0068c6e8@pop.mindspring.com>
Date: Sun, 17 Jan 1999 11:49:03 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: Gerald Morris <k6qy@mindspring.com>
Subject: Need Info
Cc: boatanchors@theporch.com
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I am in need of the alignment instructions for the Johnson 6 and 2 meter converter. I have the operating manual and assembly instructions but the alignment, a separate section, is missing.

Any help would be appreciated. Usual fees apply.

73 Gerald k6qy@mindspring.com

Message-Id: <3.0.1.32.19990117150618.0070e060@mail.escape.ca>
Date: Sun, 17 Jan 1999 15:06:18 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: Jim Roik <jnroik@escape.ca>
Subject: Hewlett Packard 214A Pulse Generator
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I have a HP 214A pulse generator, in good working condition, sitting on my shelf. So far I haven't been able to figure out a good use for it, so....

- 1) unless someone knows a use for it that would make me want to keep it
- 2) or someone is interested in acquiring it, trades more than welcome
- 3) I'm going to use it for parts, case, knobs, feet, etc.

Let me know comments on #1 or if you are interested in #2 or #3.

Jim VE4AQ

Date: Sun, 17 Jan 99 14:02:11 -0700
Message-Id: <9901172102.ZZ984520@acs6.acs.ucalgary.ca>
From: "Deane D McIntyre" <dmcintyr@ucalgary.ca>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: On line Mil Dyno and Battery info

Gang:

Will it seems that the .gif format is the best for my www tube info project, so I will at some later time scan the tables in the NBS Tabulation of Data on Receiving Tubes and put it online. Don't expect it tomorrow.....

I have however put three pages of data online of possible interest to mil collectors.

These were taken from a mid 50's edition of Electronic Components Handbook (no relation to the current pub with that title)

They are:

<http://deane.bio.ucalgary.ca/battery.gif> (67kB)

info on Standard Dry Cells per MIL-B-18B spec of July 1, 1953
(we all know what a D cell is but what about a CD cell or a FL-9 cell?)

<http://deane.bio.ucalgary.ca/dyno1.gif> (115 kB)

Mil Dyno nomenclature and info on Dynamoters per MIL-D-24A,
Electrical Properties

<http://deane.bio.ucalgary.ca/dyno2.gif> (95 kB)

info on Dynamoters per MIL-D-24A, Thermal and Mechanical Properties

Lets see...dyno BD-77...provides 1000 vdc at 350 mA. Just what we need
for that mobile xmtr. Only requires 40 amps from the battery and weighs
only 41.3 pounds.....best to keep the car engine running during operation
I suppose.

73, Deane D McIntyre VE6BPO
dmcintyr@ucalgary.ca

Message-Id: <199901172122.NAA28425@scottie.eimac.cpii.com>
Date: Sun, 17 Jan 1999 13:24:45 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: Paul Thekan <Paul.Thekan@eimac.cpii.com>
Subject: WTB BC 729 Ant. Tuner
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Greetings all

I would like to find a BC 729 ant. tuner. It was
used with the BC 610 D and earlier models in the SCR 299 radio truck. It is
half as tall as the more common BC 939 antenna tuner. I had followed up on
a couple of previous leads , but they went no where. Back to square one.

Thankyou
Paul N6FEG

Message-ID: <36A258EB.7205@club-internet.fr>
Date: Sun, 17 Jan 1999 22:40:59 +0100
From: Jacques Ransac <ransac@club-internet.fr>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE. SHIPS 275
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Group,

In 1993, one of the small dealers catering mostly to the civilian antique radio collectors offered for sale what they described as an excellent copy of SHIPS 275. Is anyone remembers who sold them, or is anyone having one that they will accept to sell me.

Jacques

--

Jacques Ransac
e-mail : ransac@club-internet.fr

Date: Sun, 17 Jan 1999 17:04:11 -0500
From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: SHACK DRIPPINGS #2
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199901171704_MC2-66F4-B978@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Group,

Found a few ceramic base twist type sockets for tubes such as 866, 100TH,=

and larger ones for 250TH, etc. These are the side contact type. I'm going to keep a set of spares for my BC-610's but would let the rest go. =

Some are used, some NOS. Was thinking maybe \$5.00 each plus postage and insurance for PRIMAIL. There are about four of each.

73,
Robert Downs
WA5CAB
Houston, TX

Message-ID: <36A25EB9.B2FEC265@groupone.net>
Date: Sun, 17 Jan 1999 14:05:45 -0800
From: Dan Arney <kn6di@groupone.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WANTED: Power supply and Manual CAI C26A
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

I acquired a CAI Model C-26A 4 channel SSB xcvr with pair of 6146's.
Sans power supply and manual. Needed to get the rig up and running.
This was built by CAI in Hyde Park, NY. Now part of Racal/Decca ???

Any help appreciated.

Thanks,

73

Hank

Date: Sun, 17 Jan 1999 17:04:09 -0500
From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: BATTERY CHARGER SOCKET
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199901171704_MC2-66F4-B977@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Group,

I keep most batteries either in the refrigerator or the deep freeze, but =
I
just had to buy another new one for my Makita drill in the middle of
hanging some test lead and cable brackets in the shack. Anyone got a
defunct Makita 9.6V charger with a good socket? I want to make a battery=

cycler.

73,

Robert Downs

WA5CAB

Houston, TX

Message-Id: <2.2.32.19990117224317.006f5a88@rideau.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sun, 17 Jan 1999 17:43:17 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Larry Kayser <kayser@rideau.net>
Subject: Re: 6C21 Tubes

Robert:

A 6C21 is a pulse variety of a 450TL/TH (I remember not which at the

moment). It had some nice characteristics, two of them made a wonderful PP 50 MHz amplifier. Richardson, W4UCH (?) [a well known 6 Meter man of years past] wrote an amplifier up that used them many years ago in QST.

In the same era, 73 Magazine published an article on using them at HF but I remember no details of that work.

Regards

Larry

Date: Sun, 17 Jan 1999 16:43:16 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: My AM Favorite RX
Message-ID: <Pine.ULT.3.96.990117164207.10008A-100000@admin.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

C'mon guys - it's sacrelidge to play "Blue Suede Shoes" and the Everly bros. thru a 1930's radio :-)

"Nostalgia is a thing of the past"
E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

Message-Id: <4.1.19990117180204.0107eb10@villagenet.com>
Date: Sun, 17 Jan 1999 18:15:35 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: WF2U <mbendror@villagenet.com>
Subject: Re: WANTED: Power supply and Manual CAI C26A
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: 8bit
Content-Transfer-Encoding: 8bit

Hi Hank,

I worked for Communications Associates, Inc. (CAI) in Huntington Station, NY from 1980 to 1982 as a design engineer. The product you're mentioning was built by the company in their old location, before they moved to

Huntington Station.

CAI went out of business, due to some shady manipulations by Harris Corp who got a huge military contract for HF SSB equipment, provided they subcontract some of the work to a "small business", which CAI was. They made CAI spend money and resources to gear up for production, and they dragged their feet in transferring the drawings and specifications of the subsystems CAI was supposed to make, until the company became insolvent. Then, of course, Harris "had" to take over production on these subsystems, so they made all the profit on the deal....

By the way, my boss, the chief engineer of CAI was Jerry Harrison, W2ZGA, of the Cosmophone fame...

Racal/Decca has absolutely nothing to do with CAI...

At 02:05 PM 1/17/99 -0800, you wrote:

>I acquired a CAI Model C-26A 4 channel SSB xcvr with pair of 6146's.

>Sans power supply and manual. Needed to get the rig up and running.

>This was built by CAI in Hyde Park,NY. Now part of Racal/Decca ???

>

>Any help appreciated.

>Thanks,

>73

>Hank

>

73's from†† Meir, WF2U

Collector and user of† vintage amateur and military radio equipment.

Collector and user of vintage horse/cavalry equipment. "Boots and Saddles!"

"Boatanchors forever!"

E-mail address: mbendror@villagenet.com

Message-Id: <v03102810b2c81054269b@[134.53.65.12]>

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

Date: Sun, 17 Jan 1999 18:16:01 -0400

To: Old Tube Radios <boatanchors@theporch.com>

From: Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>

Subject: Info Needed: SB-34 mechanical filter

Hi Gang,

I'm trying to restore a Sideband Engineers SB-34, which is in nice condition and complete, except missing the mechanical filter. The manual gives no specifications, but the filter plugs into sockets with spacing about 2.2" apart. From my Collins mechanical filter catalog, I infer its probably a 455kHz filter in a FA or M case. If anybody has a parts SB-34, I'd love to buy the filter and get this baby back on the air. Alternately, if you have an SB-34, I'd appreciate knowing any numbers or info on the mechanical filter.

Thanks,

Jim Garland W8ZR

MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit
Date: Sun, 17 Jan 1999 18:49:46 -0500 (EST)
Subject: A.C. RADIO BATTERY ELIMINATOR, TRULY ANTIQUE!
To: Old Tube Radios <boatanchors@theporch.com>
From: JOHN_SEHRING.parti@ecunet.org (JOHN SEHRING)
Message-ID: <9901171849.aa20176@pcusa01.ecunet.org>

To: boatanchors@theporch.com

Got a real antique here, maybe better belongs on a list more focussed on pre-1930 radios and equipment...

It's a battery eliminator for radios.

Measures 7.5"H x 5"W x 12"D (very close to ARC-5 size!), in a black crackle steel cabinet. Top and bottom covers are removable, friction fit (no screws).

Front panel says, "Kuprox A.C. Power Pack, Model 310, 115 VAC, 50-60 cycles, Manufactured by Kuprox Radio Corporation, Cincinnati, Ohio U.S.A."

Two controls, "Amplifier - increase -- decrease" and "Detector - increase -- decrease" which drive strange rheostats, they are 5-turn, knobs screw into/out of panel when turned.

Binding posts are labelled: Power Amp 135 volts, C 10-, C 4-, DET+, B 67-1/2+, B 90+, B- NEG

Inside, three separate compartments separated by steel partitions.

Type 80 tube (not included) as rectifier, is raised up & mounts to a surface rather than through a hole.

Input transformer, I measured 25 ohms DC primary resistance, original power cord, 5' long, cloth covered (some frayed) and rubber insulation (cracked but no bare wire shows) and original AC plug. No, I haven't powered this up. I think it'll take extreme care to do so, very old electrolytic caps, fragile wiring, etc. It probably deserves a thorough going-over before powering up.

Third compartment has two more, smaller, indential transformers. What appears to be an air-wound coil (light in weight so no iron core, 2 wires, all well wrapped in electrician's cloth tape, measures 4"x2"x0.5". Also a porcelin power resistor about 25 watt rating mounted on back of rheostats. One fairly large, steel cased, potted, multi-section capacitor, number of sections unknown, 7 wires come from it through a grommet in the steel case.

Condition appears fair-good. Just a bit of rust on outside of case (stored in near-desert conditions), lots of dust, tube socked partially broken but appears functional, condition of insulation is fragile but unbroken. Appears stock, no discernable mods.

Front panel is aluminum, dark brown with aluminum- and red-colored lettering. A few scratches & paint a bit off around rivits but quite good condition. Three binding posts (these are pre-bannana type) are missing caps (each binding cap says "Burgess"). The two identical knobs (dark brown, with fluted, grooved skirt, has long line & arrow on top) appear to be stock and are consistent with 1920's styles.

Any advice on this one from the august list?

-John Sehring (3:20 pm Sun, Jan 17, 1999 @ Custer SD USA) UCC WB2EQG
"Live long and prosper" --John 10:10b

End of BOATANCHORS Digest 2385
